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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte DAVID HIRSCHFELD, BARRY FERNANDO, and
MARK C. PHELPS

Appeal 2016-001465
Application 13/461,730
Technology Center 2100

Before DEBRA K. STEPHENS, JOSEPH P. LENTIVECH, and
MICHAEL J. ENGLE, *Administrative Patent Judges*.

ENGLE, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from a final rejection of claims 1–20. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

Technology

The application relates to “virtual objects abstracted from an electronic document.” Abstract.

Representative Claim

Claim 1 is representative and reproduced below with the limitations at issue emphasized:

1. An article of manufacture comprising a processor and a non-transitory computer readable medium having computer readable program code encoded therein to provide remote access to virtual objects abstracted from an electronic document, the computer

readable program code comprising a series of computer readable program steps to effect:

receiving an electronic document comprising a total of (N) virtual objects, wherein each of said (N) virtual objects is selected from the group consisting of text object, an image object, a sound object, a video object, an interactable graphic object, and a null object, wherein (N) is greater to or equal to 1;

forming, for each value of (i), an (i)th computer readable file encoding an (i)th virtual object, wherein (i) is less than or equal to (N);

encoding said (i)th computer readable file in said non-transitory computer readable medium;

creating an index referencing said (i)th computer readable file; and

encoding said index in said non-transitory computer readable medium.

Rejections

Claims 1–5, 7–9, 14–16, 19, and 20 stand rejected under 35 U.S.C. § 103(a) as obvious over the combination of Dunie et al. (US 2011/0238669 A1; Sept. 29, 2011) and Hull et al. (US 2008/0005102 A1; Jan. 3, 2008). Final Act. 6.

Claims 6, 10, 11, 13, 17, and 18 stand rejected under 35 U.S.C. § 103(a) as obvious over the combination of Dunie, Hull, and Belknap et al. (US 2002/0166035 A1; Nov. 7, 2002). Final Act. 20.

Claim 12 stands rejected under 35 U.S.C. § 103(a) as obvious over the combination of Dunie, Hull, and El-Saban et al. (US 2011/0295851 A1; Dec. 1, 2011). Final Act. 26.¹

¹ An amendment after the Final Rejection also overcame a rejection under 35 U.S.C. § 112, second paragraph and objections due to various informalities. See App. Br. 4; Final Act. 3–5.

ISSUE

Did the Examiner err in finding the combination of Dunie and Hull teaches or suggests “receiving an electronic document comprising a total of (N) virtual objects, wherein each of said (N) virtual objects is selected from the group consisting of text object, an image object, a sound object, a video object, an interactable graphic object, and a null object, wherein (N) is greater to or equal to 1” and “forming, for each value of (i), an (i)th computer readable file encoding an (i)th virtual object, wherein (i) is less than or equal to (N),” as recited in claim 1?

ANALYSIS

“an electronic document comprising . . .”

Claim 1 recites “receiving an electronic document comprising a total of (N) virtual objects” and “forming, for each value of (i), an (i)th computer readable file encoding an (i)th virtual object, wherein (i) is less than or equal to (N).” Independent claims 15 and 19 recite commensurate limitations.

Appellants argue “claim 1 requires that where an electronic document comprises (N) virtual objects, a computer readable file for each of the (N) virtual objects be formed.” App. Br. 10–11. According to Appellants, Dunie fails to teach this because Figure 1A of Dunie shows both captioned objects (e.g., figures and tables) and text objects, yet “only ‘captioned objects,’ such as figures and tables[,] are abstracted” whereas “text objects are totally ignored.” *Id.* at 10.

However, Appellants’ argument is not commensurate with the scope of the claims as presently written. We agree with the Examiner that “[t]he claim does not require every object in the document to be extracted. The claims require one or more objects to be extracted and Dunie teaches that.”

Ans. 3. Specifically, claim 1 recites “an electronic document *comprising* a total of (N) virtual objects.” The Federal Circuit has held “the open-ended term ‘comprising’ means that the named elements are essential, but other elements may be added and still form a construct within the scope of the claim.” *Genentech, Inc. v. Chiron Corp.*, 112 F.3d 495, 501 (Fed. Cir. 1997). Thus, nothing precludes the electronic document from also including *other* objects (e.g., text) in addition to the claimed virtual objects (e.g., a figure and a table). Notably, even the Specification discloses other virtual objects exist beyond the ones listed in the claims, including “data tables” and “graphs.” Spec. 11:10–12.

“a null object”

Claim 1 further recites “each of said (N) virtual objects is selected from the group consisting of text object, an image object, a sound object, a video object, an interactable graphic object, and a null object.” The other independent claims (15 and 19) recite commensurate limitations.

Appellants contend these claims “require forming a computer readable file comprising a null object if the electronic document includes a null object” and therefore, the combination of Dunie and Hull cannot render the claims obvious because neither teaches null objects. Reply Br. 6–7; App. Br. 11–12). However, Appellants’ argument again is not commensurate with the scope of the claims as presently written. The language “selected from the group consisting of” indicates a *Markush* group, a style of claim drafting that recites a list of alternatives, any one of which would suffice for purposes of the claim.² For example, “an element selected from a group

² The name comes from one of the early decisions approving this style of claiming: *Ex parte Markush*, 1925 C.D. 126, 127 (Comm’r Pat. 1924).

consisting of A, B, and C” would be met by just the element B (which is a listed alternative), but would not be met by element D (which is not a listed alternative). For anticipation or obviousness of a claim element written in *Markush* form, “the entire element is disclosed by the prior art if one alternative in the Markush group is in the prior art.” *Fresenius USA, Inc. v. Baxter Int’l, Inc.*, 582 F.3d 1288, 1298 (Fed. Cir. 2009). The claim as written merely requires Dunie or Hull to teach one of the listed alternatives, not all of them. The Examiner has set forth with specificity how Dunie teaches image objects and Hull teaches text objects, audio objects, and video objects. Ans. 4 (citing Dunie ¶ 28; Hull ¶¶ 56–57). Appellants have not persuaded us of Examiner error.

Therefore, we are unpersuaded the combination of Dunie and Hull fails to teach or suggest the disputed limitations. Accordingly, we sustain the Examiner’s rejection of claims 1, 15, and 19, and their dependent claims 2–14, 16–18, and 20, which Appellants do not argue separately. *See App. Br. 13–22; 37 C.F.R. § 41.37(c)(1)(iv).*

Further guidance on considering the definiteness of “(i)”

In the event of further prosecution, the Examiner may consider whether Appellants’ use of the term “(i)” is indefinite under 35 U.S.C. § 112, second paragraph. Claim 1 recites:

- forming, for each value of (i), an (i)th computer readable file encoding an (i)th virtual object, wherein (i) is less than or equal to (N);
- encoding said (i)th computer readable file in said non-transitory computer readable medium;
- creating an index referencing said (i)th computer readable file;

Nothing in the claims requires that (i) be greater than 0 or even an integer. *Contra* Reply Br. 4–5 (incorrectly asserting “[c]laims 1, 15, and 19, each recite . . . where (i) is greater than or equal to 1”).

Nor is it clear that (i) must even vary within a single document, particularly given that (N) is a fixed value within a single document. For example, (i) could arbitrarily and permanently be set to the fixed value of 1 for all documents. Because the claims require that “(N) is greater to or equal to 1,” the relationship of “[1] is less than or equal to (N)” always will be met. Similarly, “for each value of [1]” always will be met because a fixed value only has one value (in this case, the value 1). Thus, it is not clear that the claim as presently written necessarily requires (i) to iterate over any different values rather than remain a single fixed value.

Although Appellants may have intended another meaning for the phrase “for each value of (i), . . . wherein (i) is less than or equal to (N)” such as to act like a computer program loop (e.g., “for(int $i=1$; $i \leq N$; $i++$)”), the claims as presently written do not recite that process. In light of these concerns, the Examiner may wish to consider indefiniteness in the event of further prosecution.

DECISION

For the reasons above, we affirm the Examiner’s decision rejecting claims 1–20.

No time period for taking subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). 37 C.F.R. § 41.50(f).

AFFIRMED